

Project Overview: Trough Project and Trough R&D

Duke Solar Energy
Gilbert Cohen

Trough : Duke Solar Goals

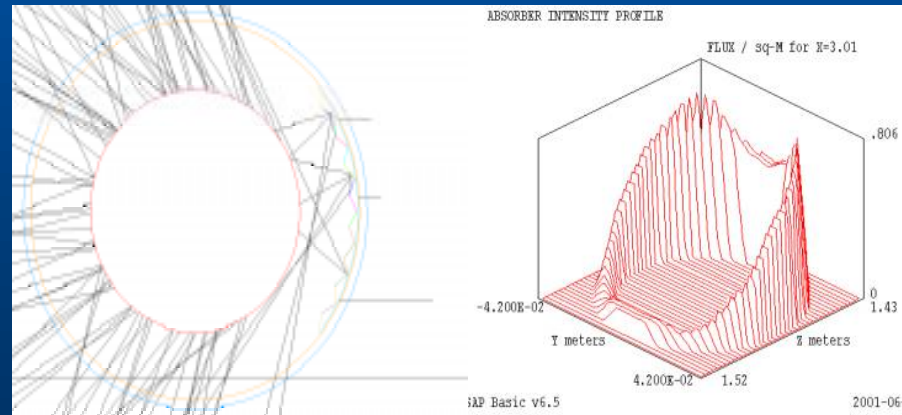
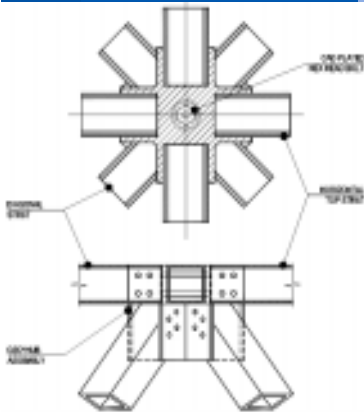
- Develop the next generation of trough power plants
- Develop the next generation of Parabolic Solar Concentrators
- Integrate advanced technologies like non-imaging optics to collector design

Trough Technology R&D

USA Trough FY 00 – FY 01 Accomplishments

- Innovative Space Frame Design
- Non- imaging Secondary Reflector
- Primary Reflector analysis
- Wind tunnel testing
- ORC system Development

Trough Technology R&D



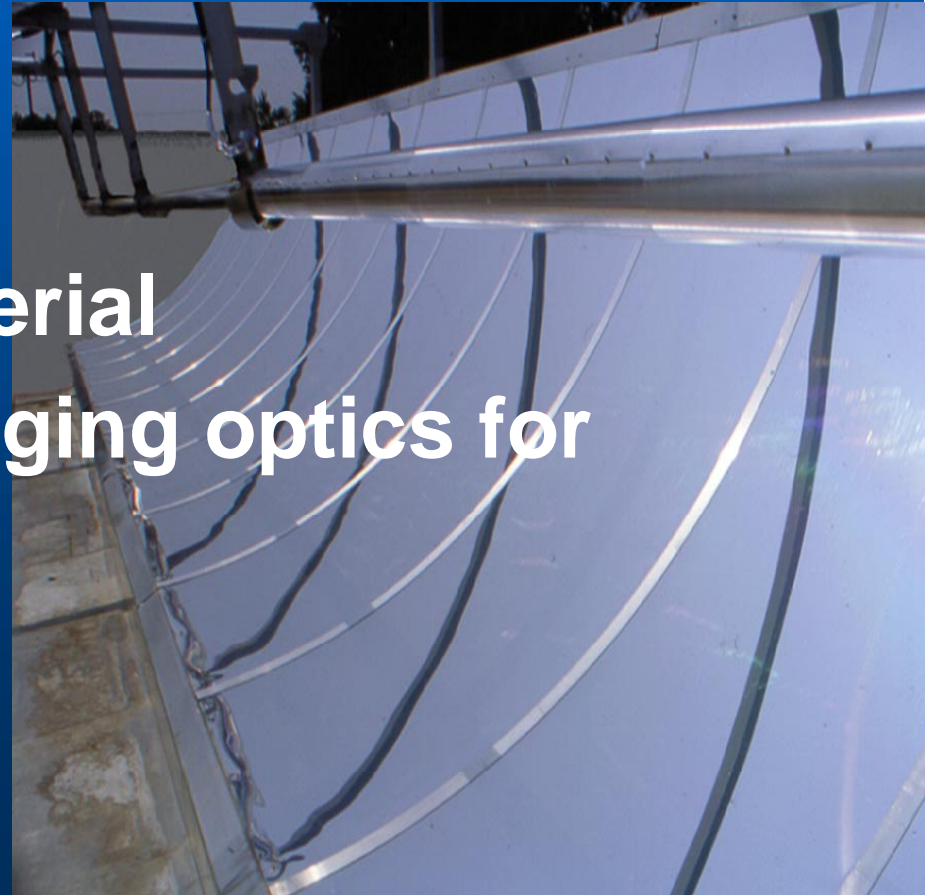
Trough Technology R&D. cont

- ISCCS
- Storage
- New collector concept exploration
- Direct Steam Generation



Power Roof Improvements

- New curved insulated panel
- New drive system
- New Control
- New Reflector material
- Improved non-imaging optics for receiver



Technology Development (other)

- Optical mixer for Concentrating PV
- System engineering for building integration
- Advanced CPC collector designs
- Dual Fuel generator for 2E chiller
- Small engines R&D